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Abstract of the Disclosure

Optical to electrical and electrical to optical conversion assemblies provide precise and stable alignment, low loss, unperturbed electrical transmission and high thermal conductivity. Mechanically isolating the ceramic substrate of the conversion assembly relative to the surrounding structures enables good long-term optical alignment. Electrical transmission line connections to and from the optical conversion circuits on the ceramic substrates are made via flexible circuit board designs. The alignment of the components on the substrate relative to the plastic optics is thus preserved. The flexible circuit board includes a cross hatched ground layer, which relieves portions of the metallization below the signal layer and yet is able to maintain the desired transmission line properties. Electrical to optical conversion circuits are provided where the transmission of the electrical signals to the converter circuits is accomplished with minimal loss and with good signal integrity.